

FORM-PTO-1390  
(Rev. 10-96)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NUMBER

**TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)  
CONCERNING A FILING UNDER 35 U.S.C. 371**

000500-252

U.S. APPLICATION NO. (If known, see 37 C.F.R. 1.5)

Unassigned **09/529638**INTERNATIONAL APPLICATION NO.  
PCT/SE98/01861 ✓INTERNATIONAL FILING DATE  
16 October 1998 ✓PRIORITY DATE CLAIMED  
24 October 1997 ✓

TITLE OF INVENTION

A WAIST BELT FOR ABSORBENT GARMENTS

APPLICANT(S) FOR DO/EO/US

Olle CARLBARK, Kenneth STRANNEMALM, and Ewa KÖLBY FALK ✓

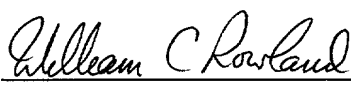
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and the PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
  - a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau).
  - b. ☒ has been transmitted by the International Bureau.
  - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US)
6. ☐ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
  - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
  - b. ☐ have been transmitted by the International Bureau.
  - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
  - d. ☒ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern other document(s) or information included:

11. ☐ An Information Disclosure Statement under 37 C.F.R. § 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 C.F.R. § 3.28 and 3.31 is included.
13. ☒ A **FIRST** preliminary amendment.  
☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☒ Other items or information:

INTERNATIONAL SEARCH REPORT and INTERNATIONAL PRELIMINARY EXAMINATION REPORT.

U.S. APPLICATION NO. (if known, see 37 C.F.R. 1.50) Unassigned <b>09/529638</b>		INTERNATIONAL APPLICATION NO. PCT/SE98/01861		ATTORNEY'S DOCKET NUMBER 000500-252	
17. <input checked="" type="checkbox"/> The following fees are submitted:				CALCULATIONS	PTO USE ONLY
<b>Basic National Fee (37 C.F.R. § 1.492(a)(1)-(5)):</b>  Search Report has been prepared by the EO or JPO ..... \$840.00 (970)  International preliminary examination fee paid to U.S. PATENT AND TRADEMARK OFFICE (37 C.F.R. § 1.482) ..... \$670.00 (956) No international preliminary examination fee paid to U.S. PATENT AND TRADEMARK OFFICE (37 C.F.R. § 1.482) but international search fee paid to U.S. PATENT AND TRADEMARK OFFICE (37 C.F.R. § 1.445(a)(2)) ..... \$690.00 (958)  Neither international preliminary examination fee (37 C.F.R. § 1.482) nor international search fee (37 C.F.R. § 1.445(a)(2)) paid to U.S. PATENT AND TRADEMARK OFFICE ..... \$970.00 (960)  International preliminary examination fee paid to U.S. PATENT AND TRADEMARK OFFICE (37 C.F.R. § 1.482) and all claims satisfied provisions of PCT Article 33(2)-(4) ..... \$96.00 (962)					
<b>ENTER APPROPRIATE BASIC FEE AMOUNT =</b>				\$ 970.00	
Surcharge of \$130.00 (154) for furnishing the oath or declaration later than 20 <input type="checkbox"/> 30 <input type="checkbox"/> months from the earliest claimed priority date (37 C.F.R. § 1.492(e)).				\$	
Claims	Number Filed	Number Extra	Rate		
Total Claims	8 -20 =	0	X\$18.00 (966)	\$ 0	
Independent Claims	1 -3 =	0	X\$78.00 (964)	\$ 0	
Multiple dependent claim(s) (if applicable)			+ \$260.00 (968)	\$	
<b>TOTAL OF ABOVE CALCULATIONS =</b>				\$ 970.00	
Reduction for ½ for filing by small entity, if applicable. Verified Small Entity statement must also be filed. (Note 37 C.F.R. § 1.9, 1.27, 1.28).				\$	
<b>SUBTOTAL =</b>				\$ 970.00	
Processing fee of \$130.00 (156) for furnishing the English translation later than 20 <input type="checkbox"/> 30 <input type="checkbox"/> months from the earliest claimed priority date (37 C.F.R. § 1.492(f)).				\$	
<b>TOTAL NATIONAL FEE =</b>				\$ 970.00	
Fee for recording the enclosed assignment (37 C.F.R. § 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 C.F.R. § 3.28, 3.31). \$40.00 (581) per property +				\$	
<b>TOTAL FEES ENCLOSED =</b>				\$ 970.00	
				Amount to be: refunded	\$
				charged	\$
a. <input checked="" type="checkbox"/> A check in the amount of \$ <u>970.00</u> to cover the above fees is enclosed.  b. <input type="checkbox"/> Please charge my Deposit Account No. <u>02-4800</u> in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.  c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>02-4800</u> . A duplicate copy of this sheet is enclosed.					
<b>NOTE: Where an appropriate time limit under 37 C.F.R. § 1.494 or 1.495 has not been met, a petition to revive (37 C.F.R. § 1.137(a) or (b)) must be filed and granted to restore the application to pending status.</b>					
SEND ALL CORRESPONDENCE TO:					
Ronald L. Grudziecki BURNS, DOANE, SWECKER & MATHIS, L.L.P. P.O. Box 1404 Alexandria, Virginia 22313-1404			<div style="text-align: center;">             SIGNATURE         </div> <div style="text-align: center;">           William C. Rowland            NAME         </div> <div style="text-align: center;"> <u>30,888</u>            REGISTRATION NUMBER         </div>		
April 17, 2000					

Patent  
Attorney's Docket No. 000500-252

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of )  
 )  
Olle CARLBARK et al. ) Group Art Unit: Unassigned  
 )  
Application No.: Unassigned ) Examiner: Unassigned  
 )  
Filed: April 17, 2000 )  
 )  
For: A WAIST BELT FOR ABSORBENT )  
GARMENTS )

**PRELIMINARY AMENDMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to examination of the above-identified patent  
application please amend the application as follows:

**IN THE CLAIMS:**

*The following amendments relate to the claims filed in  
the International Application on October 30, 1999.*

Please amend claims 1-8 as follows:

Claim 1, line 1, delete "(1) and "(2)";

line 2, delete "(3)" and "(L)";

line 3, delete "(T)";

line 4, delete "(1)" and "(3)";

line 5, delete "(7, 8)";

line 6, delete "(L)";

line 7, delete "(2)";

line 8, delete "(1)" and "(3)";

line 9, delete "(T)" and "(3)"; and  
line 11, delete "(L)".

Claim 2, line 2, delete "(3)" and "(T)";  
line 3, delete "(9, 10, 11, 12, 13, 14, 15)".

Claim 3, line 2, delete "(3)".

Claim 4, line 2, delete "(M)" and "(3)";  
line 3, delete "(7, 8)".

Claim 5, line 1, change "any one of the preceding claims"  
to --claim 1--;

line 2, delete "(7, 8)";  
line 3, delete "(3)";  
line 5, delete "(7, 8)".

Claim 6, line 1, change "any one of the preceding claims"  
to --claim 1--;

line 2, delete "(3)".

Claim 7, line 2, delete "(3)".

Claim 8, line 2, delete "(3)".

Application No. Unassigned  
Attorney's Docket No. 000500-252

REMARKS

In the event that there are any questions concerning this amendment, or the application in general, the Examiner is respectfully urged to telephone the undersigned attorney so that prosecution of the application may be expedited.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: William C Rowland  
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Date: April 17, 2000

A WAIST BELT FOR ABSORBENT GARMENTS

09/529638

FIELD OF INVENTION

422 Rec'd PCT/PTO 17 APR 2000

5 The present invention relates to a garment that comprises an  
absorbent part and a waist belt which is attached directly or  
indirectly to the garment, wherein the belt has two belt  
portions that extend in respective opposite directions from  
said absorbent part and which can be fastened together around  
10 the wearer of said garment.

## BACKGROUND OF THE INVENTION

Absorbent garments of the aforesaid kind are well known in  
this field. The garment in question has a belt attached to  
the absorbent part of the garment and, subsequent to  
fastening the belt around the wearer's waist with the  
attached end of the garment located at the rear of the  
wearer, requires that end of the garment which is not  
fastened to the belt to be brought between the wearer's  
thighs and detachably fastened to the front side of the belt  
with the aid of some type of fastener means. Such releasable  
fastener means may have the form of hooks and loops (such as  
touch-and-close fasteners), e.g. fasteners retailed under the  
25 designation "VELCRO". An example of one such garment, is  
described in WO-A1-94/26224.

It is also well known within this particular field to use  
loose belts to which an absorbent unit is fastened, therewith  
30 enabling one and the same belt to be used over a longer  
period of time and together with a number of changes of  
absorbent units. A loose belt of this kind is intended for  
use with an absorbent unit illustrated and described in WO-  
A1-94/26225.

## 35 TECHNICAL PROBLEMS

One well known problem with belted garments of the aforesaid

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5 kind exists in the handling of those parts of the belt that  
protrude out from each side of the absorbent part of the  
combined garment, so as to enable the belt-portions to be  
gripped quickly and correctly and then fastened together.  
10 With respect in particular to incontinence problems, it will  
be understood that persons suffering from incontinence are  
often old and physically handicapped in some way or another.  
Consequently, there is need of a solution which will enable  
the absorbent garment to be correctly positioned on the  
wearer in a simple fashion.

5 A solution to this problem is taught by WO-A1-94/26222,  
according to which the belt is given a degree of stiffness  
such as to prevent excessive wrinkling of the belt and  
therewith facilitate handling of said belt.

20 Another aspect of the use of a stiff or rigid belt is  
described in UK Patent Specification GB-A-2,216,774, where a  
portion of the waist part, which can be interpreted as a  
belt-portion, comprises a stiffening element. It is said that  
25 this stiffening element functions to reduce wrinkling in this  
region, therewith reducing the risk of leakage.

30 US-A-3 587 580 discloses a garment comprising an absorbent  
part and a waist belt which has a longitudinal direction and  
a cross-direction and which is attached directly or  
indirectly to said garment, wherein said belt includes two  
belt portions which extend generally in said longitudinal  
direction in respective directions from said absorbent part  
and which are intended to be fastened together around a  
wearer of the garment, wherein the belt has a stiffness that  
35 varies in the cross-direction of the belt.

It is thus desirable from several aspects to use a belt which  
has a relatively high stiffness. Unfortunately, however, a  
very stiff belt is liable to cause discomfort to the wearer  
in use, for instance is liable to cut into and chafe the

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wearer's skin. In addition, a stiff belt has relatively little pliability and will not therefore adapt readily to the shape of the wearer's body. This problem is particularly significant in the case of broad belts, which are consequently often felt particularly uncomfortable to wear.

There is thus also a need of a solution which will allow the use of a relatively stiff, or rigid, belt, that is comfortable to wear and that will not increase the danger of the belt cutting into and chafing the wearer's skin.

#### SUMMARY OF THE INVENTION

The aforesaid problems are avoided essentially completely with the present invention. Thus, an object of the present invention is to provide a belt with which the risk of chafing the wearer's skin and causing other forms of skin irritation is markedly reduced. An inventive belt is primarily characterised in that it has a stiffness which varies in the cross-direction of the belt.

By configuring the belt with a stiffness which is greater in a longitudinally extending central part of the belt than in at least one longitudinally extending edge-part of said belt, there is provided a belt whose stiffness is sufficient to avoid the aforesaid handling and leakage problems while, at the same time, providing a soft belt edge which is comfortable to the user. Because the edge of the belt has a low degree of stiffness, it can be adapted to the shape of the wearer's body without impairing wearer comfort.

A belt comprising an essentially homogenous material is given the desired properties, for instance, by making the cross-sectional area smaller at the edge-parts of the belt than at the central part thereof. A belt of this design is particularly beneficial when the cross-sectional area decreases continuously from the longitudinally extending centre line of the belt towards the longitudinal edges of said belt.

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Other preferred characteristic features of the invention and further embodiments thereof will be apparent from the following dependent claims.

## 5 BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will now be described in more detail with reference to the accompanying drawings, in which

10 Fig. 1 illustrates a garment which comprises a belt constructed in accordance with the invention;

Fig. 2 is a cross-sectional view of the belt shown in Fig. 1;

15 Fig. 3 illustrates another embodiment of an inventive belt;

Fig. 4 is a cross-sectional view of the belt shown in Fig. 3; and

20 Fig. 5 illustrates a third embodiment of an inventive belt.

## DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

25 Fig. 1 shows a garment generally referenced 1. The garment comprises an absorbent part 2 and a belt-portion, generally referenced 3. The belt may be a full belt 3 which is fastened to the absorbent part at its one end 4 (or 5). Alternatively, the belt 3 may comprise two mutually separate parts disposed on respective sides of the absorbent part 2 at one end 4 of

30 said absorbent part. The illustrated belt has a longitudinal direction L and a cross-direction T. The manner in which the belt is fastened is not significant to the present field of use. Thus, the belt 3 may be fastened permanently to the absorbent part 2, i.e. glued, welded, sewn thereto or

35 fastened thereto in some other way. Releasable fastener

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devices may also be used, such as buttons, press-studs, clips, touch-and-close fasteners, or corresponding means.

If it is desired to incorporate suppleness and resilience in a belt that includes two mutually separate parts, it is conceivable for one end 4 (or 5) of the absorbent part of the garment to be made elastic.

The general appearance of the illustrated garment is known to the art and consequently not all of the component parts of said garment will be described in detail in this document. The belt 3 comprises a first belt-portion 7 that projects out from one first side-edge 41 of the absorbent part 2, and a second belt-portion 8 that projects out from the opposing side-edge 42 of said absorbent part. A fastener device 6 in the form of a surface that presents hooked elements and forming part of a touch-and-close fastener means is provided on one end portion of the first belt-portion 7. The fastener device 6 may either be fastened to the other belt-portion 8 (on the side thereof not shown in Fig. 1) or to a receiving area that includes loop-elements and arranged on the second belt-portion 8. The fastener device 6 may alternatively consist of an adhesive material which is either fastened to the second belt-portion 8 (on the side thereof not shown in Fig. 1) or to a specially designed receiving surface against which the adhesive fastener device 6 can be fastened and released repeatedly.

As is made apparent hereinafter, further advantages are afforded by special dimensions and designs of the belt 3. Although the belt is preferably generally oblong in shape, it may, of course, have other elongated shapes. However, when the belt has an oblong shape its width will preferably lie between 70 mm and 160 mm so as to enable the belt to be used by adults that are incontinent.

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When using an inventive belt, the belt-portions 7 and 8 can be given good handling properties by choosing a belt material that is sufficiently stiff to avoid wrinkling problems while, nevertheless, avoiding problems associated with reduced wearer comfort, such as chafing of and biting into the wearer's skin.

A nonwoven material is preferably used for either one side or both sides of the belt, said nonwoven material preferably being of the kind to which hooked elements on the fastener device 6 can be releasably fastened. The use of nonwoven material as a receiving surface to which the fastener device 6 can be releasably fastened enables particularly beneficial combinations of peeling forces and shear strengths to be obtained. The use of nonwoven material is also beneficial by virtue of the fact that it is less expensive than woven material and thus more appropriate for use with disposable garments.

Since wearer comfort is a particularly important factor to which attention must be paid within this field, and then particularly with regard to belt stiffness, it has been found advantageous to construct the belt in accordance with the present invention. As before mentioned, the belt will beneficially have a certain degree of stiffness, particularly in its longitudinal direction L. At the same time, the risk of the belt edges cutting into the wearer's skin or chafing the wearer's skin is greater in the case of a stiff belt than in the case of a belt which is softer and more pliable. With the intention of addressing this risk, the inventive belt is constructed so that its stiffness will vary in the cross-direction T of the belt, thereby enabling the belt to conform to the shape of the wearer's body in use much more readily than might otherwise be the case.

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Fig. 2 is a cross-sectional view of the belt 3 shown in Fig. 1. As will be apparent, the belt, which has a generally homogenous construction, comprises a central part 18 that is of predetermined stiffness. Because the belt has been constructed so that the cross-sectional area of said belt decreases in a direction towards the edge-parts 16 and 17 thereof, the stiffness of the belt will also decrease continuously in said edge-parts 16, 17. These parts 16 and 17 can thus conform to the wearer in use, for instance bulge out when necessary, therewith reducing the risk of chafing and of the belt cutting into the wearer's skin and also reducing the risk of impaired user comfort.

Fig. 3 illustrates another embodiment of the present invention in which the belt 3 comprises in its cross-direction T a plurality of mutually adjacent regions 9, 10, 11, 12, 13, 14 and 15 of mutually different stiffness, the extensions of these regions in the longitudinal direction L coinciding essentially with the length of the belt 3. These regions are preferably disposed so that the central part of the belt will be stiffer than the edge-parts of said belt. It is also conceivable for the belt to be constructed so that only one edge-part will have this greater pliability, preferably that edge-part which lies uppermost in use. Neither is it necessary for the regions 9, 10, 11, 12, 13, 14 and 15 to extend through the full thickness of the belt. For instance, these regions may be disposed on a layer 20 that is preferably placed proximal to the wearer's body in use.

Fig. 4 is a cross-sectional view of the belt 3 shown in Fig. 3 provided with a layer 20 which by virtue of its holding effect on said regions 9-15 facilitates manufacture of the belt, in addition to enhancing wearer comfort.

Fig. 5 illustrates a third embodiment of a continuous belt constructed in accordance with the present invention. The

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belt 3 of the Fig. 5 embodiment includes a plurality of mutually adjacent regions 29, 30, 31, 32, 33, 34, 35 of mutually different stiffness in the cross-direction T of the belt, said regions being disposed on a first and a second belt-portion 7, 8. A part M of the belt 3 located centrally between the two stiffened belt-portions 7, 8 as seen in the longitudinal direction of the belt 3 includes no stiffening material and thus has one and the same degree of stiffness throughout the whole of its area. Thus, those portions 7, 8 of the belt that include regions of mutually different stiffness have an extension in the longitudinal direction L which is shorter than the length of the belt 3. In this case, said regions are placed so as to essentially coincide with the wearer's need for soft edge-parts on the belt 3.

In certain applications, it may be sufficient for the belt to have two longitudinally extending regions of mutually different stiffness. Furthermore, it may be appropriate to leave a piece of each end of the belt free from stiffening material, for instance when the belt is fastened together with the aid of a button/buttonhole fastener. This would facilitate buttoning of the belt. It is therefore not necessary for the belt to have regions of different stiffness along the whole of its length.

One method of achieving the desired difference in stiffness between different parts of the belt in its cross-direction is to treat the edge-parts of the belt in a manner to change the internal structure of the material. According to one embodiment of the invention (not shown), the edge-parts of the belt are softened by heat-treating said parts. According to another embodiment (also not shown) edge-parts of the belt are softened by exposing said edges to radiation, whereas said softening effect is achieved in accordance with another embodiment (not shown) by mechanically working said edge-parts.

Naturally, combinations of the aforesaid methods can be used to produce the desired material properties within the scope of the invention.

5

The invention shall not therefore be considered limited to the aforescribed exemplifying embodiments thereof, since other embodiments are conceivable within the scope of the following Claims.

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## CLAIMS

1. A garment (1) comprising an absorbent part (2) and a waist  
belt (3) which has a longitudinal direction (L) and a cross-  
direction (T) and which is attached directly or indirectly to  
said garment (1), wherein said belt (3) includes two belt-  
portions (7, 8) which extend generally in said longitudinal  
direction (L) in respective directions from said absorbent part  
(2) and which are intended to be fastened together around a  
wearer of the garment (1), which belt (3) has a stiffness that  
varies in the cross-direction (T) of the belt (3),  
characterised in that the stiffness that varies has an  
extension in the longitudinal direction (L) that essentially  
coincides with the length of the belt.

2. A garment according to claim 1, characterised in that the  
belt (3) comprises in its cross-direction (T) at least two  
mutually adjacent regions (9, 10, 11, 12, 13, 14, 15) of  
mutually different stiffness.

3. A garment according to claim 2, characterised in that the  
belt (3) has a longitudinally extending central part that is  
stiffer than at least one longitudinally extending edge-part of  
said belt.

4. A garment according to claim 1, characterised in that a part  
(M) of the belt (3) being located centrally between the two  
stiffened belt-portions (7, 8) have one and the same degree of  
stiffness throughout the whole of its area.

5. A garment according to any one of the preceding claims,  
characterised in that the two belt-portions (7, 8) of said belt  
(3) are comprised of a generally homogenous material; and in  
that a cross-section through one or both of said belt-portions  
(7, 8) presents at least one edge-part that is thinner than the  
central part of said cross-section.

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6. A garment according to any one of the preceding claims, characterised in that at least one edge-part of the belt (3) has been treated so as to change the stiffness of the material locally.

5

7. A garment according to claim 6, characterised in that the edge-part of said belt (3) has been heat-treated.

10

7. A garment according to claim 6, characterised in that the edge-part of said belt (3) has been treated with electromagnetic radiation.

8. A garment according to claim 6, characterised in that the edge-part of said belt (3) has been worked mechanically.



1/3

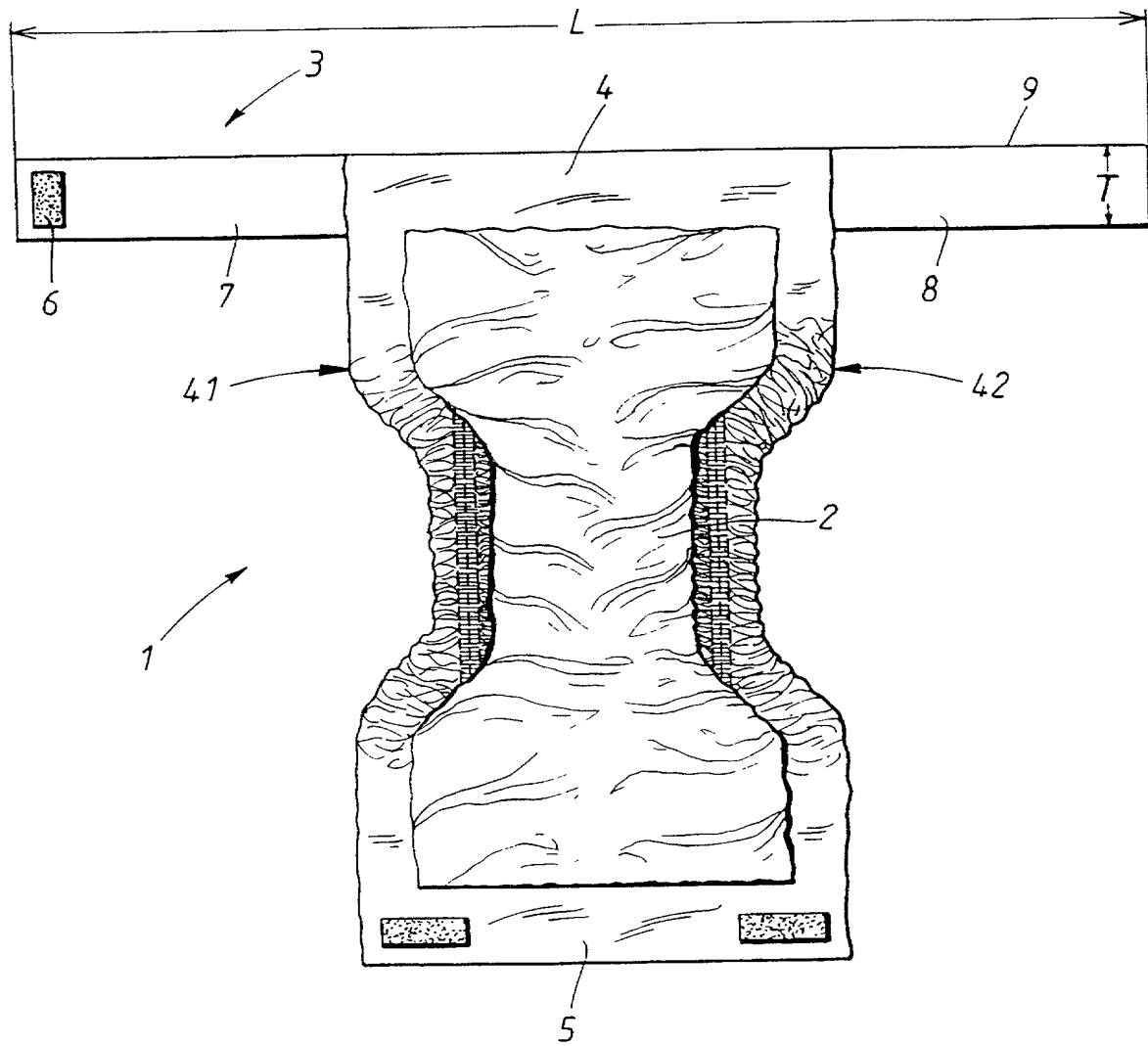


FIG.1

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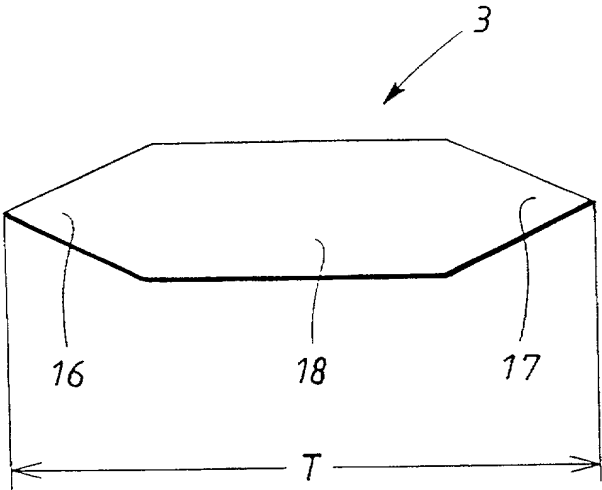


FIG. 2

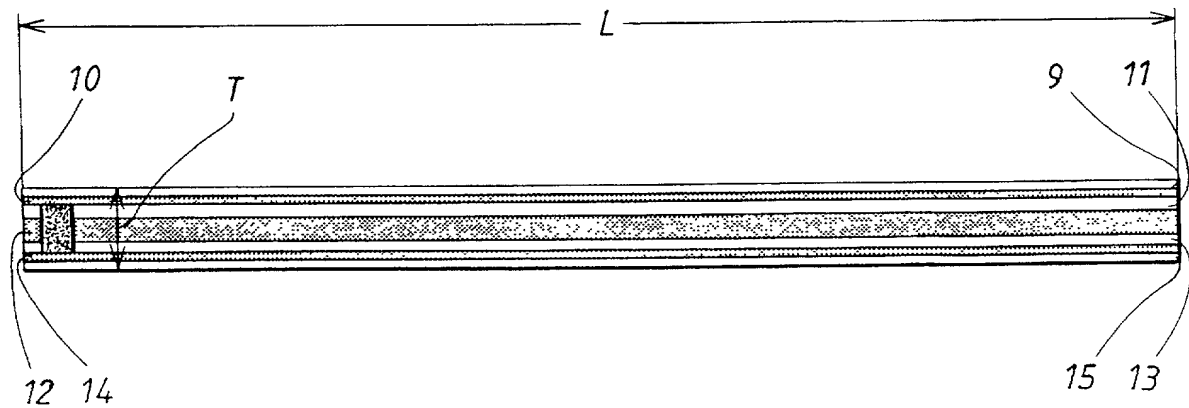


FIG. 3

3/3

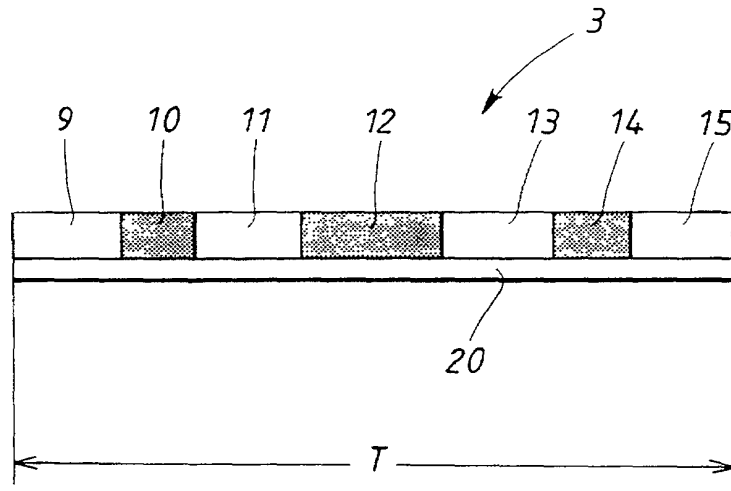


FIG. 4

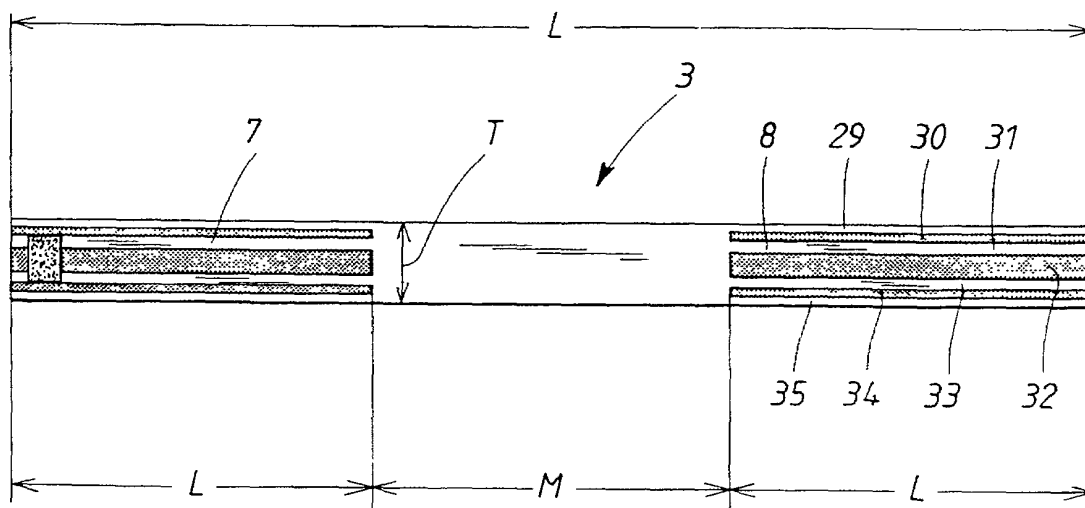


FIG. 5

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COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY  
(Includes Reference to Provisional and PCT International Applications)

ATTORNEY'S DOCKET NUMBER

000500-252

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

A WAIST BELT FOR ABSORBENT GARMENTS ✓

the specification of which (check only one item below):

☐ is attached hereto.

☒ was filed as United States application

Number \_\_\_\_\_

on 17 April 2000 -

and was amended

on 17 April 2000 (if applicable).

☐ was filed as PCT international application

Number \_\_\_\_\_

on \_\_\_\_\_

and was amended under PCT Article 19

on \_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §§ 119 (a)-(e) of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. § 119:

COUNTRY (if PCT, indicate "PCT")	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 35 U.S.C. § 119
Sweden ✓	9703882-2 ✓	24 10 1997 ✓	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No

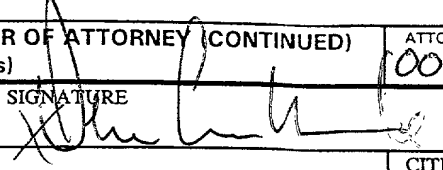
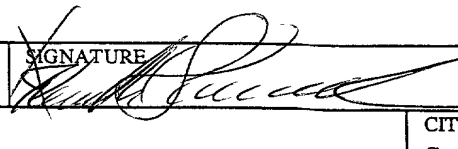

I hereby claim the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below.

\_\_\_\_\_  
(Application Number)

\_\_\_\_\_  
(Filing Date)

\_\_\_\_\_  
(Application Number)

\_\_\_\_\_  
(Filing Date)

COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY (CONTINUED) (Includes Reference to Provisional and PCT International Applications)		ATTORNEY'S DOCKET NO. 1000500-252
FULL NAME OF SOLE OR FIRST INVENTOR Olle Carlbark	SIGNATURE 	DATE 5 May 2000
RESIDENCE Källered, Sweden SEX	CITIZENSHIP Swedish	
POST OFFICE ADDRESS Stomvägen 2B, S-428 30 Källered, Sweden		
FULL NAME OF SECOND JOINT INVENTOR, IF ANY Kenneth Strannemalm	SIGNATURE 	DATE 5 May 2000
RESIDENCE Floda, Sweden SEX	CITIZENSHIP Swedish	
POST OFFICE ADDRESS Brovägen 32, S-448 31 Floda, Sweden		
FULL NAME OF THIRD JOINT INVENTOR, IF ANY Ewa Kölby Falk	SIGNATURE 	DATE 5 May 2000
RESIDENCE Gothenburg, Sweden SEX	CITIZENSHIP Swedish	
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FULL NAME OF FOURTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
FULL NAME OF FIFTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
FULL NAME OF SIXTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
FULL NAME OF EIGHTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
FULL NAME OF NINTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		

**COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY (CONTINUED)**  
(Includes Reference to Provisional and PCT International Applications)

ATTORNEY'S DOCKET NO.

000500.252

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose to the Office all information known to me to be material to the patentability as defined in Title 37, Code of Federal Regulations § 1.56, which became available between the filing date of the prior application(s) and the national or PCT international filing date of this application:

**PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 U.S.C. § 120:**

U.S. APPLICATIONS		STATUS (check one)		
U.S. APPLICATION NUMBER	U.S. FILING DATE	PATENTED	PENDING	ABANDONED
PCT APPLICATIONS DESIGNATING THE U.S.				
PCT APPLICATION NO.	PCT FILING DATE	U.S. APPLICATION NUMBERS ASSIGNED (if any)		
PCT/SE98/01861	16 10 1998			

I hereby appoint the following attorneys and agent(s) to prosecute said application and to transact all business in the Patent and Trademark Office connected therewith and to file, prosecute and to transact all business in connection with international applications directed to said invention:

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Norman H. Stepno	22,716	James W. Peterson	26,057	Michael J. Ure	33,089
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Regis E. Slutter	26,999	T. Gene Dillahunty	25,423	Ronni S. Jillions	31,979
Samuel C. Miller, III	27,360	Patrick C. Keane	32,858	Harold R. Brown III	36,341
Ralph L. Freeland, Jr.	16,110	Bruce J. Boggs, Jr.	32,344	Allen R. Baum	36,086
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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.